

**IN THE CLAIMS:**

The current claims follow. For claims not marked as amended in this response, any difference in the claims below and the previous state of the claims is unintentional and in the nature of a typographical error.

1.-20. (Canceled)

21. (Currently Amended) A transceiver comprising:

a digital synthesizer; and

a phase locked loop coupled to the digital synthesizer;

wherein when the transceiver is in a transmitting mode, the digital synthesizer is configured to receive a modulation signal, modulate a reference signal in response to the modulation signal, and transmit the modulated reference signal to the phase locked loop;[[ and]]

wherein when the transceiver is in a receiving mode, the digital synthesizer is configured to receive a non-modulation signal, generate a non-modulated reference signal, and transmit the non-modulated reference signal to the phase locked[[ loop. ]] loop; and

wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer driven phase locked loop is configured to operate in a modulating state when the transceiver is in the transmitting mode and is configured to operate in an oscillating state when the transceiver is in the receiving mode.

22. (Canceled)

23. (Previously Presented) The transceiver in accordance with Claim 21 wherein the phase locked loop is configured to perform a first filtering performance when the transceiver is in the transmitting mode and is configured to perform a second filtering performance different from the first filtering performance when the transceiver is in the receiving mode.

24. (Previously Presented) The transceiver in accordance with Claim 21 wherein the phase locked loop is configured to perform a first filtering performance in response to a first control signal and is configured to perform a second filtering performance different from the first filtering performance in response to a second control signal.

25. (Currently Amended) A transceiver comprising:

- a digital synthesizer;
- a phase locked loop;
- a modulation signal generator configured to transmit a modulation signal to the digital synthesizer in response to a first control signal; and
- a non-modulation signal generator configured to transmit a non-modulation signal to the digital synthesizer in response to a second control signal;

wherein in response to receiving the modulation signal, the digital synthesizer is configured to modulate a reference signal by the modulation signal and to transmit the modulated reference signal to the phase locked loop;[[ and]]

wherein in response to receiving the non-modulation signal, the digital synthesizer is configured to generate a non-modulated reference signal and to transmit the non-modulated reference signal to the phase locked[[ loop.]] loop;

wherein the first control signal is generated when the transceiver is in a transmitting mode and the second control signal is generated when the transceiver is in a receiving mode; and

wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer driven phase locked loop is configured to operate in a modulating state when the transceiver is in the transmitting mode and is configured to operate in an oscillating state when the transceiver is in the receiving mode.

26.-28. (Canceled)

29. (Currently Amended) A phase locked loop in accordance with Claim[[ 27]] 21 wherein the phase locked loop is configured to perform the first filtering in response to a first control signal, and is configured to perform the second filtering in response to a second control signal.

30.-31.(Canceled)

32. (Currently Amended) A unit comprising:

a transceiver comprising,

a digital synthesizer, and

a phase locked loop;

wherein when the transceiver is in a transmitting mode, the digital synthesizer is configured to receive a modulation signal, modulate a reference signal in response to the modulation signal, and transmit the modulated reference signal to the phase locked loop;[[ and]]

wherein when the transceiver is in a receiving mode, the digital synthesizer is configured to receive a non-modulation signal, generate a non-modulated reference signal, and transmit the non-modulated reference signal to the phase locked[[ loop.]] loop; and

wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer-driven phase locked loop is configured to operate in a modulating state when the transceiver is in the transmitting mode and is configured to operate in an oscillating state when the transceiver is in the receiving mode.

33. (Canceled)

34. (Currently Amended) A method of transmitting signals, the method comprising:

transmitting a modulation signal to a digital synthesizer of a transceiver when the transceiver is in a transmitting mode;

transmitting a non-modulation signal to the digital synthesizer when the transceiver is in a receiving mode;

in response to receiving the modulation signal, modulating by the digital synthesizer a reference signal by the modulation signal and transmitting the modulated reference signal to a phase locked loop of the ~~transceiver~~, and transceiver;

in response to receiving the non-modulation signal, generating by the digital synthesizer a non-modulated reference signal and transmitting the non-modulated reference signal to the phase locked ~~loop~~ loop;

operating the digital synthesizer and the phase locked loop as a digital synthesizer-driven phase locked loop;

operating the digital synthesizer-driven phase locked loop in a modulating state when the transceiver is in the transmitting mode; and

operating the digital synthesizer-driven phase locked loop in an oscillating state when the transceiver is in the receiving mode.

35. (Canceled)

36. (Currently Amended) The method in accordance with Claim[[ 35]]34 further comprising:

performing a first filtering performance using the phase locked loop when the transceiver is in the transmitting mode; and

performing a second filtering performance different from the first filtering using the phase locked loop when the transceiver is in the receiving mode.

37. (Currently Amended) The method in accordance with Claim[[ 35]]34 further comprising:

in response to a first control signal, performing a first filtering performance using the phase locked loop; and

in response to a second control signal, performing a second filtering performance different from the first filtering performance using the phase locked loop.

38. (Previously Presented) The method in accordance with Claim 37 wherein the first control signal is generated when the transceiver is in a transmitting mode and the second control signal is generated when the transceiver is in a receiving mode.

39. (Currently Amended) A method of transmitting signals, the method comprising:

in response to receiving a modulation signal, modulating by a digital synthesizer of a transceiver a reference signal by a modulation signal and transmitting the modulated reference signal to a phase locked loop of the ~~transceiver~~, and transceiver;

in response to receiving a non-modulation signal, generating by the digital synthesizer a non-modulated reference signal and transmitting the non-modulated reference signal to the phase locked loop;

operating the digital synthesizer and the phase locked loop as a digital synthesizer-driven phase locked loop;

operating the digital synthesizer-driven phase locked loop in a modulating state when the transceiver is in a transmitting mode; and

operating the digital synthesizer-driven phase locked loop in an oscillating state when the transceiver is in a receiving mode;

wherein the modulation signal is transmitted to the digital synthesizer by a modulation signal generator when the transceiver is in ~~[[a ]]~~the transmitting mode, and

wherein the non-modulation signal is transmitted to the digital synthesizer by a non-modulation signal generator when the transceiver is in ~~[[a ]]~~the receiving mode.

40. (Canceled)



41. (Currently Amended) The method in accordance with Claim ~~[[40 ]]~~39 further comprising:

performing a first filtering performance using the phase locked loop when the transceiver is in the transmitting mode; and

performing a second filtering performance different from the first filtering using the phase locked loop when the transceiver is in the receiving mode.

42. (Currently Amended) The method in accordance with Claim ~~[[40 ]]~~39 further comprising:

in response to a first control signal, performing a first filtering performance using the phase locked loop; and

in response to a second control signal, performing a second filtering performance different from the first filtering performance using the phase locked loop.

43. (Previously Presented) The method in accordance with Claim 42 wherein the first control signal is generated when the transceiver is in a transmitting mode and the second control signal is generated when the transceiver is in a receiving mode.

44. (Currently Amended) A method of transmitting signals, the method comprising:

in response to receiving a first control signal, transmitting a modulation signal to a digital synthesizer of a transceiver;[[ and]]

in response to receiving a second control signal, transmitting a non-modulation signal to the digital synthesizer;

operating the digital synthesizer and the phase locked loop as a digital synthesizer-driven phase locked loop;

operating the digital synthesizer-driven phase locked loop in a modulating state when the transceiver is in a transmitting mode; and

operating the digital synthesizer-driven phase locked loop in an oscillating state when the transceiver is in a receiving mode;

wherein the first control signal is generated when the transceiver is in [[a ]]the transmitting mode and the second control signal is generated when the transceiver is in [[a ]]the receiving mode.

45. (Previously Presented) The method in accordance with Claim 44 further comprising:

in response to receiving the first control signal, performing a first filtering performance using the phase locked loop; and

in response to receiving the second control signal, performing a second filtering performance different from the first filtering performance using the phase locked loop.

46. (Previously Presented) The method in accordance with Claim 44 further comprising:

in response to receiving the modulation signal, modulating by the digital synthesizer a reference signal by the modulation signal and transmitting the modulated reference signal to a phase locked loop of the transceiver, and

in response to receiving a non-modulation signal, generating by the digital synthesizer a non-modulated reference signal and transmitting the non-modulated reference signal to the phase locked loop.

47. (Canceled)